



European  
Commission



MANUFACTURING OF COMPONENTS FOR  
PRODUCTION OF RENEWABLE ENERGY  
OR ENERGY STORAGE

# INNOVATION FUND

Deployment of net-zero and innovative technologies

**HyNCREASE: Hydrogen-related Novel Components,  
Robotic Elements, and manufacturing Solutions for  
Electrolyzers and fuel cells**

The Innovation Fund is 100% funded by the EU Emissions Trading System

## | Project Factsheet

The HyNCREASE project will provide comprehensive and integrated support to the hydrogen sector, enabling a significant cost reduction of electrolyzers, fuel cells, and hydrogen. Its main objective is to upscale the production capacity for innovative clean-tech equipment. The focus is on designing, constructing and validating highly efficient manufacturing lines that will also guarantee a low environmental footprint of the end products. The proposed innovation will reduce the total cost of ownership of these electrochemical devices which are used to convert power into hydrogen and vice versa. This will reduce the current economic barriers of such clean-tech equipment and facilitate their adoption in the market. The key advantage from the project lies in a relative greenhouse gas (GHG) emission avoidance of 98.21% compared to the reference scenario.

### COORDINATOR

DE NORA DEUTSCHLAND GMBH

### LOCATION

Germany

### CATEGORY

Energy intensive industries (EII)

### SECTOR

Manufacturing of components for production of renewable energy or energy storage

### AMOUNT OF INNOVATION FUND GRANT

EUR 5,224,360

### EXPECTED GHG EMISSIONS AVOIDANCE

3,922,533 tonnes CO2 equivalent

### STARTING DATE

01 April, 2023

### ENTRY INTO OPERATION DATE

31 December, 2025

### FINANCIAL CLOSE DATE

30 November, 2024

The project aims to exceed current industry standards by expanding manufacturing capacity and introducing De Nora's proven innovative electrodes. This will enhance their technological, manufacturing, and commercial readiness. The project focuses on Advanced Water Electrolysis components (innovative electrodes) and Fuel Cells (Gas Diffusion Electrodes) with innovative coatings, shapes, and efficiency that outperform existing technology. Pioneering production techniques, including novel coating techniques and higher levels of automation ensure maximised quality, cost-effectiveness, and optimal resource utilisation. The project thus presents a very strong degree of innovation, through improved technologies and manufacturing processes, which will lead to final products that are cheaper, more efficient, and scalable up to market needs. This will all result in an absolute GHG emission avoidance of 3.923 million tonnes of CO2 equivalent over the first ten years of operation.

## | Participants

CAPANNONI SRL

DE NORA DEUTSCHLAND GMBH

The project will contribute to the production and use of renewable hydrogen through the provision of affordable and clean technology solutions, and by developing new business models. The project will also create sustainable industrial jobs and contribute to Europe's energy and climate targets, thus aligning with the European Green Deal and the New Industrial Strategy for Europe.

Considering all the socio-economic factors generated by this innovative project, the positive impact involving the local economy is particularly important. In particular, the construction period and the required supply of services during implementation will act to stimulate the local economy. The proposed technologies will also lead to cost reductions of components for electrolysers and fuel cells by bringing to market resilient products without negatively impacting performance and durability.

Italy

Germany